

## **REMARKS**

In the final Office Action mailed September 14, 2007, claims 1-24 remain pending in this application with claims 3 and 19 having been previously withdrawn, and claim 11 being presently withdrawn. All pending claims are finally rejected in the present Office Action. Claim 20 is objected to. With this Amendment, claims 1, 2, 9-10, 12-18 and 20 have been amended. Claim 25 has been newly added as the earlier addition in Applicant's prior office action was not commented nor accepted. No new matter has been added. Reconsideration of the present application in view of the amendments and remarks that follow is respectfully submitted.

### **Claim 20 Objections & Remarks**

Claim 20 has been objected to due to informalities of dependency. The Examiner has suggested that claim 20 should be corrected to depend from claim 17. Applicant notes, claim 20 as originally filed contains a dependency typo and agrees with the suggestion as such was the original intent of the filed application.

Applicant has amended claim 20 to correctly state its dependency from claim 17.

Accordingly, Applicant respectfully asserts the objection of claim 20 is traversed and requests withdrawal thereof. Applicants believe that claim 20 as amended, in further view of the remarks and amendments in this response, now stands ready for allowance and requests a timely review by Examiner.

### **Claim 25 is Newly Added**

Claim 25 is newly added and is patentably distinct and is patentable subject matter in accordance with 35 USC §101. No new matter has been added in regards to Claim 25.

### **Drawing Objections & Remarks**

No Drawing Objections have been made by Examiner.

### **35 U.S.C. §101 REJECTIONS & REMARKS**

Examiner has rejected claims 9-16 under 35 U.S.C. §101 for the following reasons:

“In claim 9, in paragraph 0048 of the specification applicant has provided evidence that applicant intends the medium to include signals as such the claim is drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim is not statutory.”

Applicant notes that Examiner’s rejections are based on the section of paragraph 0048 reading:

“Consequently, a computer program embodied on a computer-readable medium is intended to include a computer readable data signal which, for example, may be transmitted over a network.” (portion of paragraph 0048 of the Application).

Applicant believes Examiner has misread the statement and rejected claims 9-16 as asserting the presence of nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture, or composition of matter. Applicant suggests, contradistinctively, that the statement is functionally descriptive and is logically clear when considered in view of the actual functional, logic and operational flow of the invention.

However, in order to move the Application towards issuance in a timely manner, Applicant has amended and replaced paragraph [0048] and also amended claims 9 – 16 to more specifically recite Applicant’s original intention, which more specifically sets forth the intended post-computer activity involving the transmission of data with a computer program product. For example, it is the computer program product embodied on the computer-readable medium which includes the data, and a computer data signal

embodied in a carrier wave for enabling a computer to perform a process via a computer program product embodied on a computer-readable medium is provided for.

Applicant concurrently also sets forth the following. Applicant asserts that the subject matter of paragraph 0048 and that of claims 9-16 is patentable subject matter. Applicant requests Examiner to take special note that an invention may be patented only if it falls within one of the four statutory classes of subject matter of 35 U.S.C. § 101. *Kewanee Oil Co. v. Bicron Corp. et al.*, 416 U.S. 470, 483, 181 U.S.P.Q. 673, 679 (1974). The Supreme Court in *Kewanee Oil Co. v. Bicron Corp.*, also stated that "processes, machines, manufactures, compositions of matter and improvements thereof, which meet the tests of utility, novelty, and nonobviousness are entitled to be patented." The claimed computer program product falls within the statutory class of an article of manufacture which is one of the four statutory classes of subject matter of 35 U.S.C. § 101, and therefore, any such claimed invention is entitled to be patented if it meets all the remaining tests of patentability, such as utility, novelty, and nonobviousness. The claims are apparatus claims and, therefore, to be patentable subject matter, the claimed subject matter must fall within one of the three section 101 classes of "machine, manufacture, or composition of matter." The claims do not define a composition of matter" as that term has been used previously by the courts. Since the definition of "machine" and the definition of "an article of manufacture" are not clearly and distinctly defined in all circumstances, the claims may also define a "machine." In his treatise, Donald S. Chisum states: Three of the four classes of statutory subject matter of utility patents (machines, manufactures, and compositions of matter) relate to structural entities and can be grouped as "product" claims in order to contrast them with process claims.... An applicant who claims a product is not required to state whether it is a machine, manufacture, or composition of matter. *Diamond v. Chakrabarty*, 100 S.Ct. 2204, 206 U.S.P.Q. 193 (1980) (respondent's claim is to a nonnaturally occurring manufacture or composition of matter). *Nestle-Le Mur Co. v. Eugene, Ltd.*, 55 F.2d 854, 848, 12 U.S.P.Q. 335, 338 (6<sup>th</sup> Cir.1932) (little prejudice could result from an inventor's indecision as to whether his invention should properly be the subject of a patent for a machine or an article of manufacture or a composition of matter. These three subjects of patents are in a true

sense all products or articles, but all differ fundamentally in nature from a process). 1  
Donald S. Chisum, Patents, § 1.02 (Matthew Bender 1994).

Chisum further states that the three product classes exhaust all the kinds of structural entities made by mankind. Finally, he states that a manufacture "is the residual class of 'product' patent--encompassing all man- made items not found in substantially the same form in nature that are neither machines nor compositions of matter."

A computer program product must necessarily be either a machine, an article of manufacture or a composition of matter since by definition these three product classes exhaust all the structural entities made by mankind and computer program products are indeed structural entities made by mankind. Therefore, by definition, computer program products fall into at least one of the four statutory classes, and are therefore patentable.

Similarly, a computer data signal embodied in a carrier wave for enabling a computer to perform a process via a computer program product embodied on a computer-readable medium is must necessarily be either a machine, an article of manufacture or a composition of matter since by definition these three product classes exhaust all the structural entities made by mankind and computer program products embodying a carrier wave of a computer data signal are indeed structural entities made by mankind. Therefore, by definition, computer data signals embodied in a carrier wave operable via a computer program product also fall into at least one of the four statutory classes, and are patentable.

Further, the disclosed computer data signal embodied in a carrier wave disclosed has practical application, includes a computer program product, includes inventive data structure, and does not include nonfunctional descriptive material. Upon inspection, Applicant notes that the data does impart functionality to either the data as claimed or to the computer. As such, the disclosure and claims recite functional descriptive material which is patentably distinct.

Applicant takes exception to Examiner's continued rejection without apparent substantive consideration of the arguments presented. Applicants assert the rejection is traversed and request Examiner to withdraw to rejection.

Accordingly, Applicant respectfully asserts the rejection of claim 9 is traversed and requests withdrawal thereof. As claims 10-16 depend variously therefrom, Applicant believes rejections to claims 10-16 are also now traversed. Applicants believe that claims 9, as amended, and 10-16, as well as newly added claims, for the reasons above and in further view of the remarks and amendments in this response, now stand ready for allowance and requests a timely review by Examiner.

### **35 U.S.C. §103(a) REJECTIONS & REMARKS**

Examiner has rejected claims 1, 9 and 17 under 35 U.S.C. §103(a) as being unpatentable over Lin, Patent Application 2006/0173989 ("Lin") in view of Paul, 7,185,070 ("Paul"). Examiner has rejected claims 1, 9 and 17 noting that "with respect to claims 1, 9, and 17, Lin teaches a system for controlling packet classification behavior [= action classification specification 203b and paragraph 0023] of a plurality of network processors [= action processor 1, action processor 2, and/or action processor ", fig.1] in a network, the network also including at least one host processor utilizing at least one packet classification application [= policy based application 102], the system comprising: a plurality of definable rules [= policies database 202] for determining packet classification behavior in a predetermined priority sequence [= sorting network traffic into flows, paragraph 0019-0032]; a plurality of application program interfaces (APIs) [= policy engine API 104] communicating with the at least one packet classification application and the plurality of network processors, the plurality of APIs for communicating with the at least one packet classification application in the at least one host processor in a network processor [fig.2]; • wherein the plurality of APIs allow the at least one packet classification application to be network processor independent and to manage the packet classification behavior of the plurality of network processors in the network processor specific manner [figs.2-3], and further include a define API [= policy

engine API 104] for allowing a rule of the plurality of definable rules to be defined [paragraph 0016-0018].”

Applicant asserts Lin is mischaracterized as Lin is actually antithetic to the present invention, and if applied to the present invention, would render the present invention ineffective for its intended purposes. Additionally, Applicants note that neither the Lin reference nor Examiner’s other asserted references define APIs by abstraction.

Applicant requests Examiner note with particularly emphasis the teachings of Lin at Column 1, paragraph 005, lines 8-9. “Multiple network services on a single system simply make matters worse.” This instruction per se is counter to the present application. Applicant’s present invention clearly notes that a set of heterogeneous network processors is sought to be in communication across a system of the present application; to do otherwise and seek to avoid the possibility of multiple networks and/or multiple network services is antithetic to the present invention.

Applicant also notes that Lin is a complex architecture of policy applications, policy engines and policy engine APIs, which expressly designates certain aspects as hardware. For instance, Lin states at Column 2, paragraph 0017, “The policy engine API 104 serves as an interface between the policy application 102 and the policy engine 106 (via a system bus 105). **The policy engine 106 is a purpose-built hardware** (preferably running at wire speed) that operates on input network traffic and network policies and that outputs regulated traffic flows based upon the network policies.” (emphasis added). Further the Lin complex is indeed quite complex as is clearly illustrated at paragraphs 0021 – 0032. For instance, paragraph 0021, lines 6-8 sets forth that “A policy specifies both what traffic is to be subject to control and how the traffic is to be controlled. Thus, a policy typically has two components--a flow classification specification 203a and an action specification 203b.” Paragraph 0022 sets forth, “A flow classification specification 203a provides the screening criteria for the flow classifier logic 204 to sort network traffic into flows. A flow classification specification 203a can be very elaborate, as detailed as defining a specific pair of hosts running a specific application. Alternately, a flow classification specification 203a can have a simple wildcard expression.”

Paragraph 0025 sets forth, “Referring again to FIG. 3, a policy decision is at least initially derived by a policy-based application from the policy database 202. As discussed above, a flow is a stream of correlated packets to which policy decisions apply. With the described embodiments in accordance with the invention, referring again specifically to FIG. 3, for at least some of the packets, a flow classifier 204 classifies the packet according to one or more classification specifications 203a and finds one or more corresponding action specifications 203b. The found action specifications 203b are then provided to the policy cache 209 for later execution by the policy engine 106 to enforce the policy.” In so far as the complexity of Lin, in and of itself, the reference is extremely complex and highly dependent on the relationships as between hardware types, processor types and requiring certain functions to have their own databases and flow logic and the like (see paragraph 0016 for instance). This complexity then is clearly antithetic to that of the present invention.

One of the reasons for Lin’s complexity is that its policy engine API 104 is a single Application Program Interface interfacing with a single policy application 102 and a single policy engine 16 through a system bus 105, wherein the policy engine is 106 is a purpose built hardware that outputs data traffic based on the network policies and not based upon the single policy application 102. (see paragraphs 0016-0017). The Lin API 104 is an interface between the policy application 102 and the policy engine 106 (see paragraph 0017). The Lin API is limited in functionality, utility and purpose. The Lin API does not provide for the communication with an associated policy application in a network processor independent manner, for the Lin API is but a mere interface and is unassociated with any network processor. The Lin API is an API specific to (and not generic of) the policies of the Lin system. The Lin API also does not provide for communication with a plurality of heterogeneous network processors in a network processor specific manner. The Lin API is incapable of doing so for the Lin API is but a mere interface and is unassociated with any network processor. The Lin API does not provide the functionality to manage the packet classification behavior or manage the software or firmware associated with a plurality of heterogeneous network processors for the Lin API is but a mere interface and is unassociated with any network processor. Because the Lin API is a specific API for an intended purpose within the Lin system, the

remaining portions and elements of Lin are required to be complex to make up for the shortcomings of the lack of functionality, purpose and utility of the Lin API. Applicant further asserts that for the Lin API to be an operative interface as suggested in Lin, the Lin API inherently is required to have at least one specific API associated with a processor, if in fact it is in communication with such; otherwise, the ability of the Lin API to act as an interface and provide the policy based application 102 access to all the media I/O (as in paragraph 0018) is faulted. Accordingly, Applicant asserts that the Lin API is not equivalent to, similar to, nor suggestive of the plurality of generic APIs of the present invention. Additionally, Applicant asserts that the Lin API may not be substituted in the present invention, and if an attempt were made to do so, given the simplicity and specific purpose of the Lin API, the present invention would be rendered inoperable.

Examiner has asserted that “Lin teaches ... a plurality of network processors [= action processor 1, action processor 2, and/or action processor ", fig.1] in a network.” Applicant respectfully disagree for the Figure 1 reference of Lin suggest a serial approach to flow classifications where each packet is compared with hundreds of rules on an iterative level (see paragraphs 005 and 006). This is not the present invention. Nor if this aspect were adopted by the present invention would the present invention be operable as disclosed. Hence, Applicant assert that this suggestion is misplaced and that Lin is an inappropriate reference.

Examiner has also asserted that “the network also including at least one host processor utilizing at least one packet classification application [= policy based application 102], the system comprising: a plurality of definable rules [= policies database 202].” Again, Applicants respectfully disagree with Examiner. The Lin policy based application is not a plurality nor operable with more than one policy based applications and is therefore functionally deficient comparatively. Similarly, the Lin policy based application 102 is not a packet classification application – rather the Lin policy based application is “typically a legacy software system residing on a host, equipped with its own policy database 202 and flow classifier logic 204.” (see paragraph 0016). This legacy policy application inclusive of a database and traffic flow logic



system is rather complex and archaic, as admitted by Lin. The Lin legacy policy application is not an application used to manage the packet classification behavior, and argumentatively, to the extent it is, it is again dependent on specific APIs for a given processor. The Lin legacy policy application is not then network processor independent as is the present invention (see present application page 9, lines 7-8. This is antithetic to the present invention. Hence, Applicant again asserts that this suggestion is misplaced, the reference does not teach, suggest or motivate towards the present invention, and that Lin is an inappropriate reference.

Examiner has further stated that “for determining packet classification behavior in a predetermined priority sequence [= sorting network traffic into flows, paragraph 0019-0032].” Applicants again respectfully disagree. The Lin sorting of network traffic into flows is accomplished through flow classifications specifications 203a, flow classifier logic 204, and a search for corresponding action specifications via the action specification 203b, which are then provided to the policy cache 209 for execution by the policy engine 106 for enforcement of the policy 102 (see paragraphs 0021, 0022, 0025). Although Lin is quite the complicated sorting system, contradistinctively, if this complicated process were implemented or adopted by the present invention, the intent of the present invention would be defeated and operationally the results achieved would neither be met nor expected. The complexity of Lin is best left to Lin for its unique and specific issues, quite distinctive from the present invention. Hence, Applicant again asserts that this suggestion is misplaced, the reference does not teach, suggest or motivate towards the present invention, and that Lin is an inappropriate reference.

Examiner has suggested that Figure 2 of Lin should be referenced in the rejection in accordance with “...communicating with the at least one packet classification application and the plurality of network processors, the plurality of APIs for communicating with the at least one packet classification application in the at least one host processor in a network processor [fig.2].” Applicant is unable to see the basis for this assertion from the Figure or from the application specification. From the figure and from the specification, there is: no reference to a plurality or a quantity greater than one for API, packet classification, host processor or for network processors. Similarly, the

“communicating with” in accordance with the assertion is also lacking in disclosure. Hence, Applicant again asserts that this suggestion is misplaced, the reference does not teach, suggest or motivate towards the present invention, and that Lin is an inappropriate reference.

The In Lin the policy determines what traffic is to be controlled and what traffic is to be the subject of control, and therefore a policy is required to have two additional components of a flow classification specification 203a and an action specification 203b (see paragraph 0021). For the above reasons in view of this rejection basis, Applicant again asserts that this suggestion is misplaced, the reference does not teach, suggest or motivate towards the present invention, and that Lin is an inappropriate reference.

Examiner has further asserted that “wherein the plurality of APIs allow the at least one packet classification application to be network processor independent and to manage the packet classification behavior of the plurality of network processors in the network processor specific manner [figs.2-3], and further include a define API [= policy engine API 104] for allowing a rule of the plurality of definable rules to be defined [paragraph 0016-0018].” As has been stated previously, this statement is misplaced and does not properly characterize Lin as Lin intended. Hence, Applicant again asserts that this suggestion is misplaced, the reference does not teach, suggest or motivate towards the present invention, and that Lin is an inappropriate reference.

Accordingly, Applicants assert that Lin does not teach, suggest or motivate one towards the present invention, and more particularly, Examiner has not established a prima facie rejection under §103 in view of *Graham*. Applicant respectfully asserts the rejection of the claims as stated under Lin under 35 U.S.C. §103(a) are without merit as: (1) the cited reference does not disclose or teach the present invention; (2) if the present invention were adapted to the teachings of the cited art, the present invention would not operate as claimed; (3) there is no prime facie basis for a rejection of obviousness (see note 1 below)<sup>1</sup>; and (4) MPEP §2141 is inapplicable (see note 2 below).<sup>2</sup>

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<sup>1</sup> According to the Supreme Court ruling in *Graham v. John Deere*, 383 U.S. 1 (1960), in making a case for obviousness, the Examiner must: (1) determine the scope and content of the prior art; (2) ascertain the differences

Examiner continues noting that “[H]owever, Lin does not explicitly show a plurality of generic” application program interfaces (APIs) for communicating in a network processor independent manner. Examiner suggests that “Paul suggests a plurality of generic application program interfaces (APIs) [fig.1]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lin[e] in view of Paul by implementing a generic APIs for communicating in a network processor independent manner because this feature allows applications communicating over a network to utilize a desired QoS level throughout the entire period of communication, independent of the processor architectures, operating systems, network architectures, and transport protocols utilized by the application [Paul, col. 2, II. 54-67].”

Applicants do not agree.

Figure 1 of Paul is stated as being a diagram showing the G-QoS architecture of the Paul invention (Paul, col. 3, line 26.). Figure 1 does not show communication of a plurality of generic APIs with heterogeneous network processors in contradiction to Examiner’s suggestion. Instead, Applicants believe Figure 1 is demonstrative of negotiators of Paul capable of communication with one another through common communication links using a common platform and/or protocol. Further, by way of further example, Paul teaches (at col. 2, lines 54-67 and thereafter at col. 3, line 1):

“The present invention relates to a generic quality of service ("G-QoS") protocol and architecture for user applications operating in multiple transport protocol environments. The G-QoS protocol and architecture allows applications communicating over a network to utilize a desired QoS level throughout the entire period of

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between the prior art and the claims at issue; (3) resolve the level of ordinary skill in the pertinent art; and (4) evaluate evidence of secondary considerations. These principles have just been reconfirmed in KSR Int’l Co. v. Teleflex Inc., No. 04-1350 (Slip Op. April 30, 2007). In KSR Int’l Co., the U.S. Supreme Court restated the requirements for a finding of obviousness. Encouraging the application of common knowledge and common sense, the Court took care to guard against hindsight bias and ex post reasoning and to distinguish the predictable from the unpredictable arts (“If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability.” [Emphasis added.]).

<sup>2</sup> When applying 35 U.S.C. § 103, the following tenets of patent law must be followed: (1) the claimed invention must be considered as a whole; (2) the references must be considered as a whole; (3) the references must be viewed without

communication, independent of the processor architectures, operating systems, network architectures, and transport protocols utilized by the application. ***The protocol can be implemented*** between a client application and the socket layer of a communications channel, stores network and application data provided by G-QoS negotiators residing at both a client machine and a server machine, and can be implemented using out-of-band Internet Control Message Protocol ("ICMP") messages."

***"Communication between G-QoS negotiators 25, 30 is effectuated through G-QoS protocol 28.*** Upon communicating with each other, G-QoS negotiators 25, 30 then negotiate an acceptable level of QoS that can be utilized by both the user client application 15 and server application 20, taking into account network and application parameters at the time of negotiation. [...]. ***Importantly, the G-QoS protocol allows the G-QoS negotiators to communicate with each other.***" (emphasis added)

Applicants assert that the invention of Paul is instructive on the protocol use across a network possibly having different network architectures or the like. Paul is not instructive on generic APIs communicating with a plurality of heterogeneous networks though, as is it is the protocol communication which is sought by Paul and not the generic APIs communication nor the functional aspects of the generic APIs as set forth in the present invention.

Examiner further asserts rejections based on reasoning of: It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to access by a variety of network architectures..." Applicant responds that the motivation of Paul is one-sided: to provide a single protocol communication capability across architectures without concern for those architectures -- and not to have access across a variety or plurality of architectures. Examiner's other similar explanations are also set forth only due to hindsight given the present invention.

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the benefit of impermissible hindsight vision afforded by the claimed invention; and (4) reasonable expectation of success is the standard with which obviousness is determined (MPEP §2141).

As such, given the whole of the invention of Paul, with particular focus on its inventive aspects, it is not instructive, motivational nor related to the present application. Applicants assert Paul is not instructive in the teaching of the present application.

As neither the Lin nor Paul is an applicable reference, Applicants assert the basis for the rejections are traversed. Applicants respectfully request removal of the rejections.

Examiner has also rejected Claims 2, 10, and 18 under 35 U.S.C. 103(a) as “being unpatentable over Lin in view of Paul, as applied to claims 1, 9, and 17 above, and further in view of Sinha, United States Patent Number 7,000,237 (hereinafter Sinha).” For the reasons above, and as Applicants assert that neither Lin nor Paul is applicable to the present invention, and as Applicant has heretofore amended the claims of the present application, Applicants believe all claims standing, as amended, are allowable and this rejection is rendered moot. Applicants respectfully request removal of the rejections.

Examiner has also rejected claims 3-7,11-15, and 19-23 under 35 U.S.C. 103(a) as “being unpatentable over Lin in view of Paul, as applied to claims 1, 9, and 17 above, and further in view of Potterveld et al., United States Patent Number 5,878,431 (hereinafter Potterveld).” For the reasons above, and as Applicants assert that neither Lin nor Paul is applicable to the present invention, and as Applicant has heretofore amended the claims of the present application, Applicants believe all claims standing, as amended, are allowable and this rejection is rendered moot. Applicants respectfully request removal of the rejections.

Examiner has also rejected claims 8,16, and 24 under 35 U.S.C. 103(a) as “being unpatentable over Lin in view of Paul, as applied to claims 1, 9, and 17 above, and further in view of Goode et al., United States Patent Application Publication Number 2004/0103110 (hereinafter Goode).” For the reasons above, and as Applicants assert that neither Lin nor Paul is applicable to the present invention, and as Applicant has heretofore amended the claims of the present application, Applicants believe all claims

standing, as amended, are allowable and this rejection is rendered moot. Applicants respectfully request removal of the rejections.

### **ADDITIONAL REMARKS**

Applicant has through this Amendment and Response sought to continue to move the prosecution of the present application forward, however, by amending claims in the present application to more specifically claim the present invention.

In particular, Applicant has made amendments to certain claims to better clarify and depict the present invention. Amendments to the claims include the (i) plurality of generic application program interfaces (APIs) managing the packet classification behavior of the plurality of heterogeneous network processors in the network processor specific manner by managing software or firmware associated with the plurality of heterogeneous network processors, and (ii) that the plurality of generic application program interfaces (APIs) are devoid of a separate set of APIs which are specific to each type of one or more of the plurality of heterogeneous network processors, (iii) the plurality of generic application program interfaces (APIs) provide a null behavior as a packet classification behavior for unsupported operations, and (iv) the plurality of generic application program interfaces (APIs) include a define API for allowing a rule of the plurality of definable rules to be defined, which is defined using abstraction. Applicant asserts that no reference cited by Examiner is instructive, suggestive or motivational towards, nor is any cited reference anticipatory of the claims as amended. Accordingly as amended claims stand ready for issuance, the dependent claims which depend variously therefrom also stand ready for allowance for the same or similar reasoning.

### **FINAL REMARKS**

For the reasons stated hereinabove, Applicants respectfully assert that all claims, as presented in the Amendment, stand ready for allowance and request a Notice of Allowance be timely provided.

Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, the Examiner is invited contact the undersigned at the telephone number indicated below.

Respectfully submitted,

February 13, 2008

Date

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